

FIG. 1

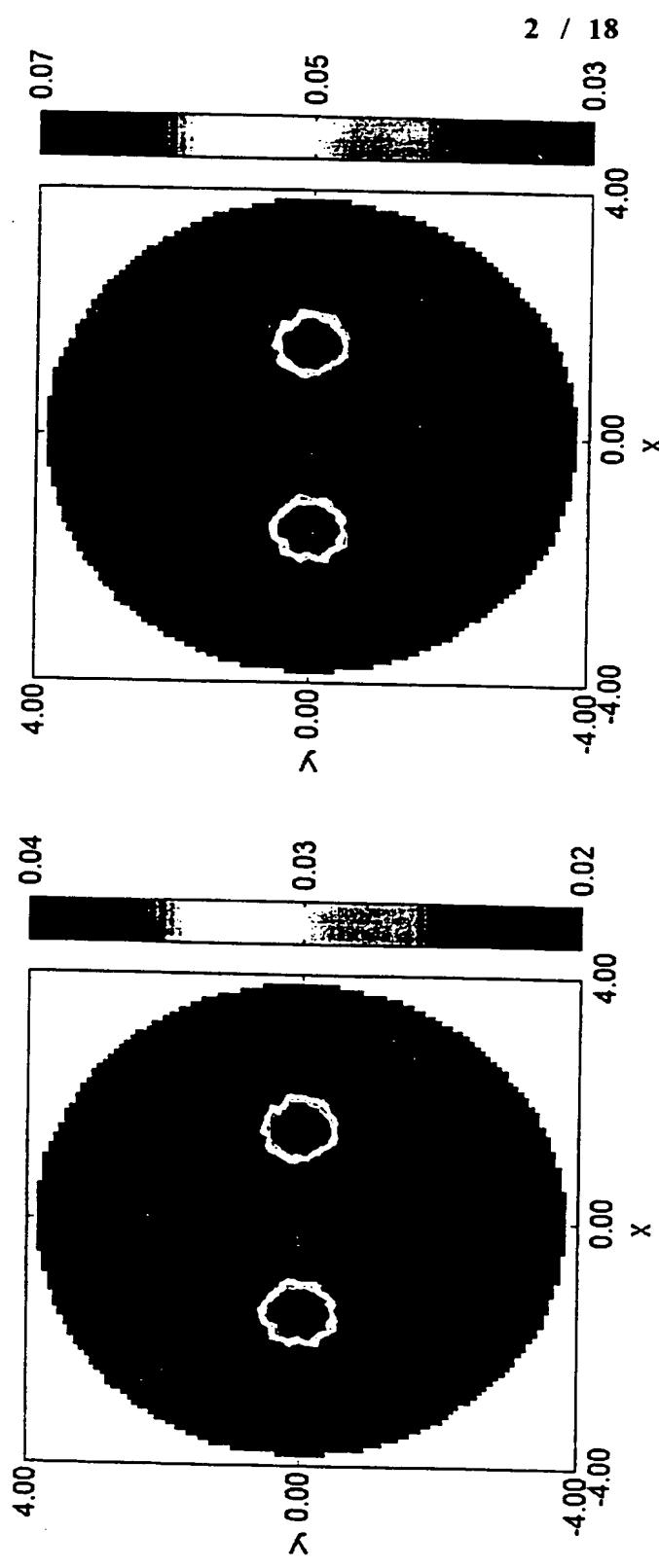


FIG. 2A
FIG. 2B

Test Case		The Parameters Involved					Inverse Algorithms	Result Presented
#	Formulation	I	I ₀	I _r	W _r	β		
1	$W_r \delta x = \left(\frac{I - I_0}{I_0} \right) I_r$	C	C	V	V	/	CGD	6x6 Matrix
2	$W_r \delta x = \left(\frac{I - I_0}{I_0} \right) I_r$	C	C	V	V	/	CGD + WMR	6x6 Matrix
3	$W_r \delta x = I - I_r$	C	/	V	V	/	CGD	5x5 Matrix
4	$W_r \delta x = I - I_r$	C	/	V	V	/	CGD + WMR	5x5 Matrix
5	$W_r \delta x = I - I_b$	C	/	C	V	/	CGD	6x6 Matrix
6	$W_b \delta x = I - I_r$	C	/	V	C	/	CGD	5x5 Matrix
7	$W_b \delta x = \beta I - I_b$	C	/	C	C	V	CGD	3x3 Matrix

FIG. 3

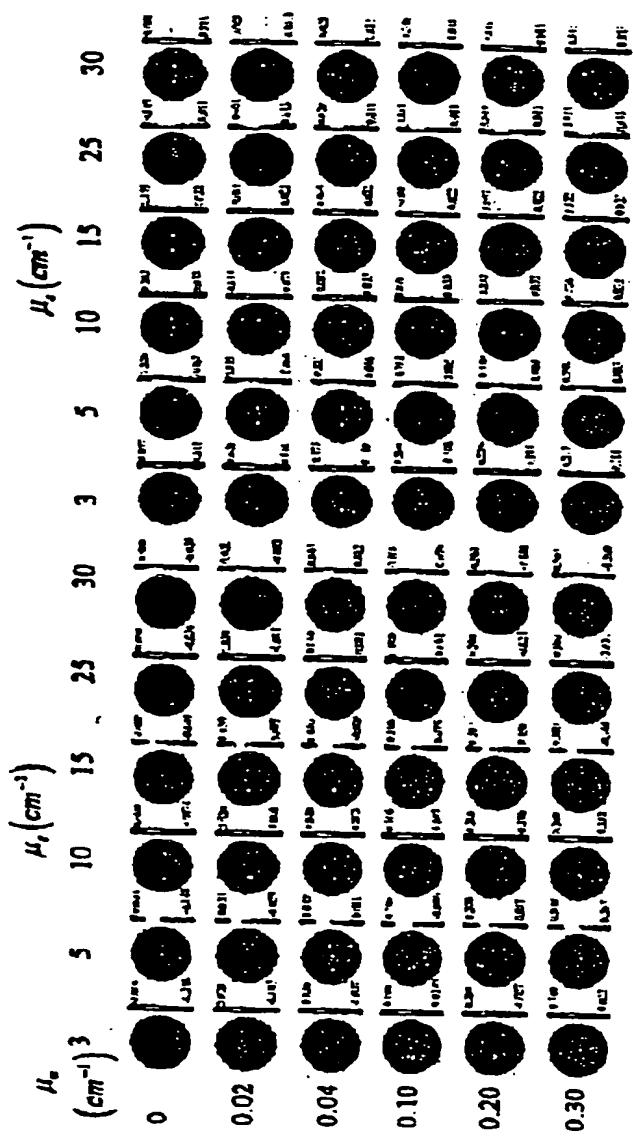


FIG. 5A

FIG. 5B

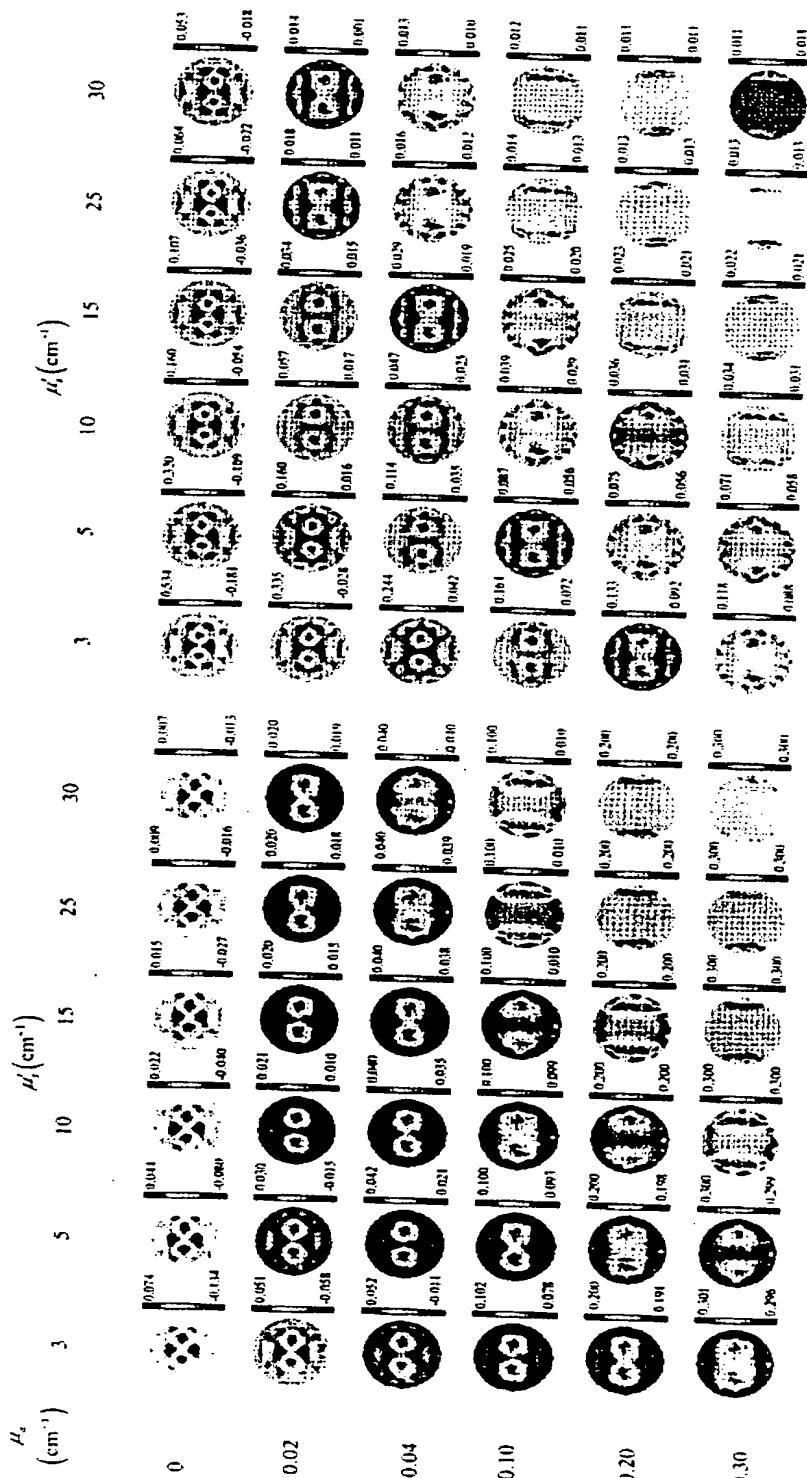


FIG. 4A

FIG. 4B

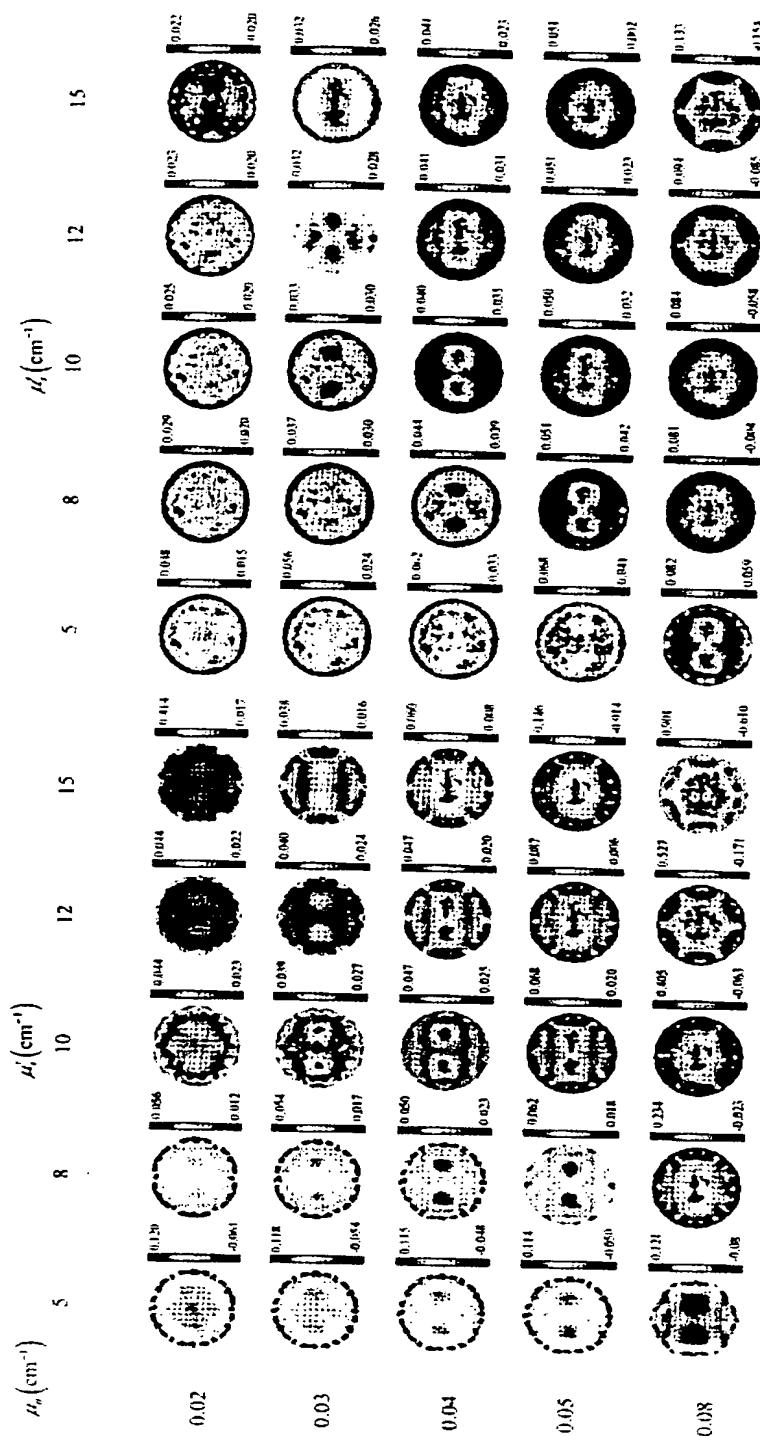


FIG. 6A

FIG. 6B

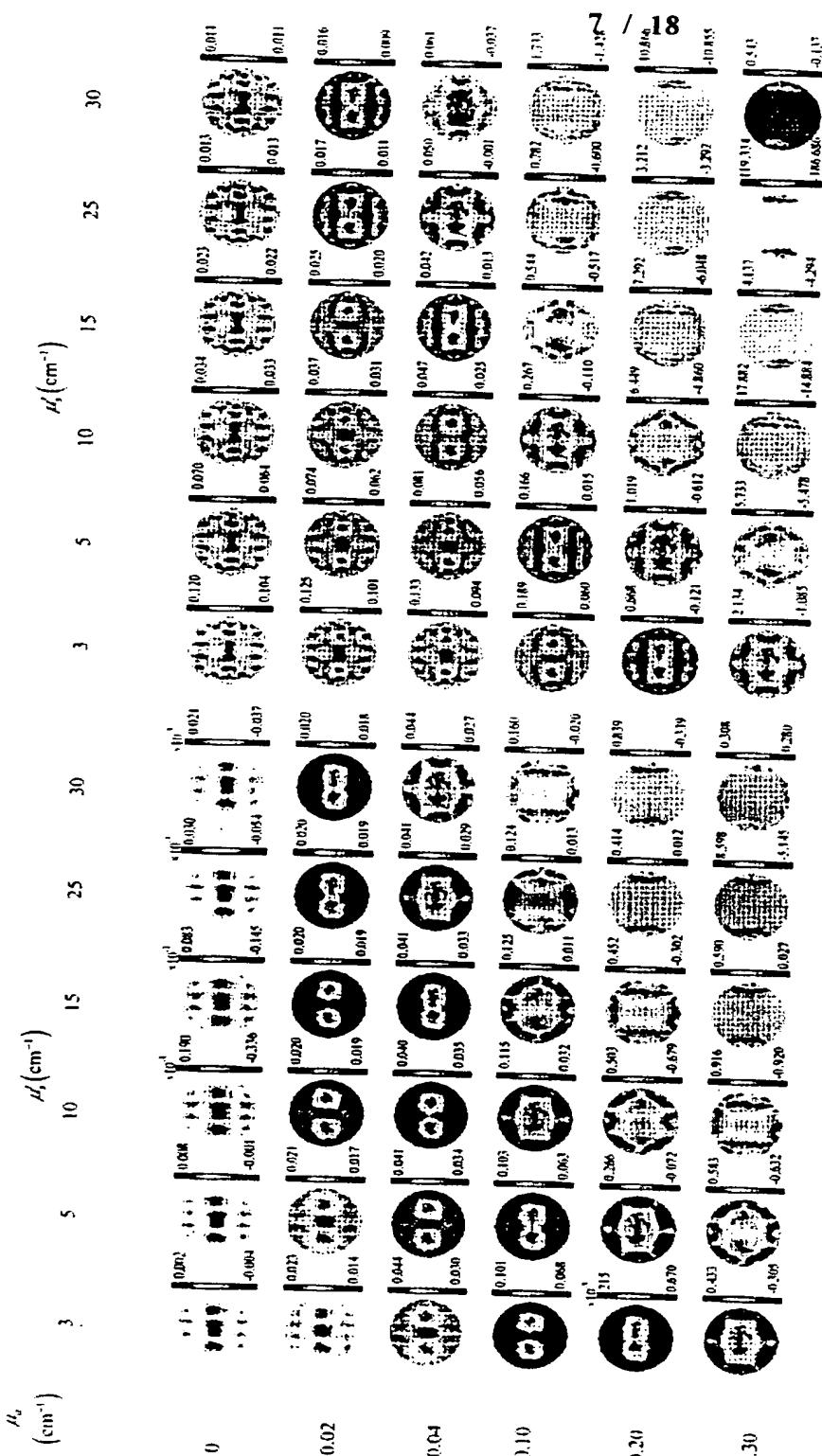


FIG. 7A

FIG. 7B

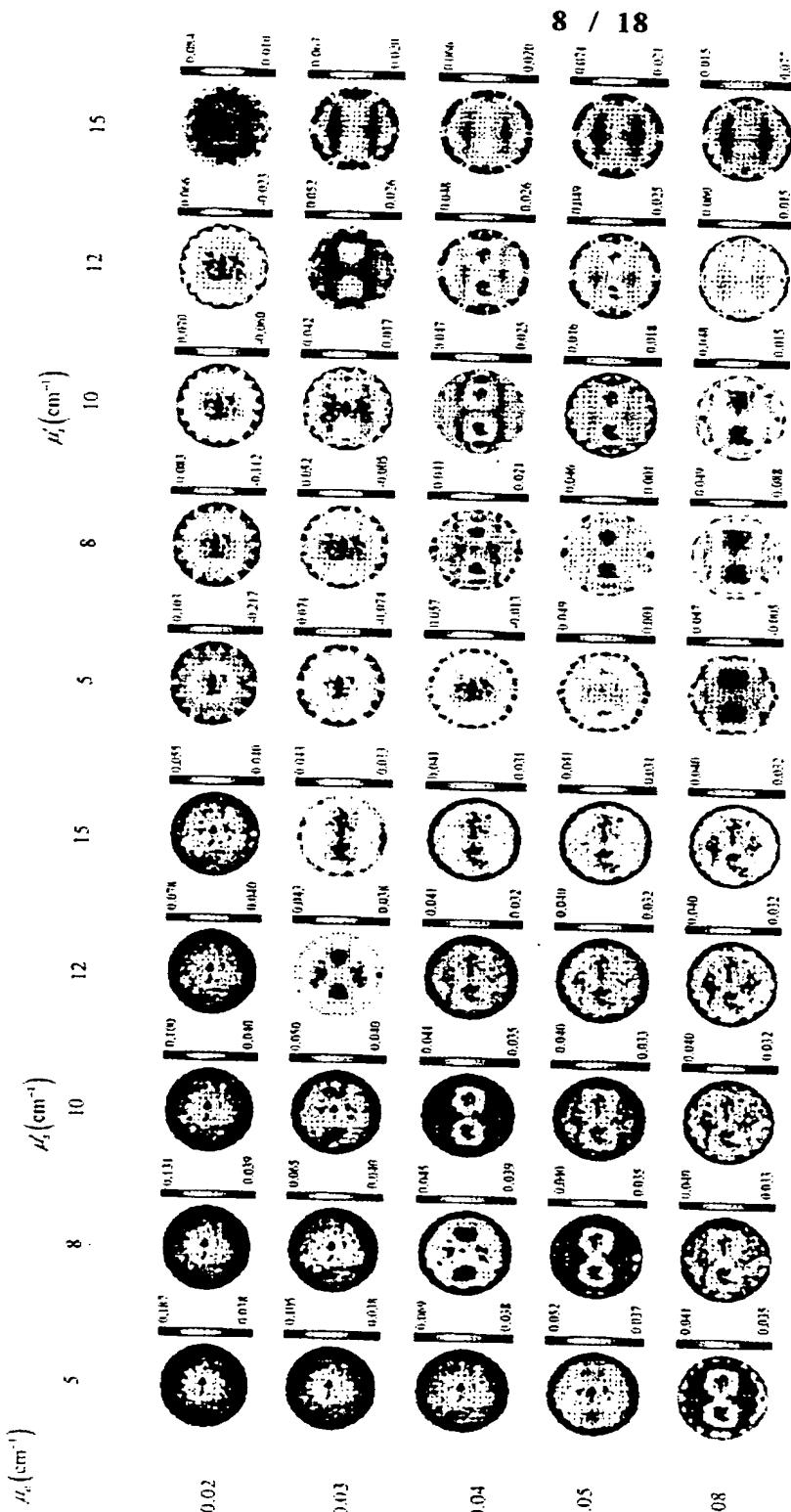


FIG. 8A
FIG. 8B

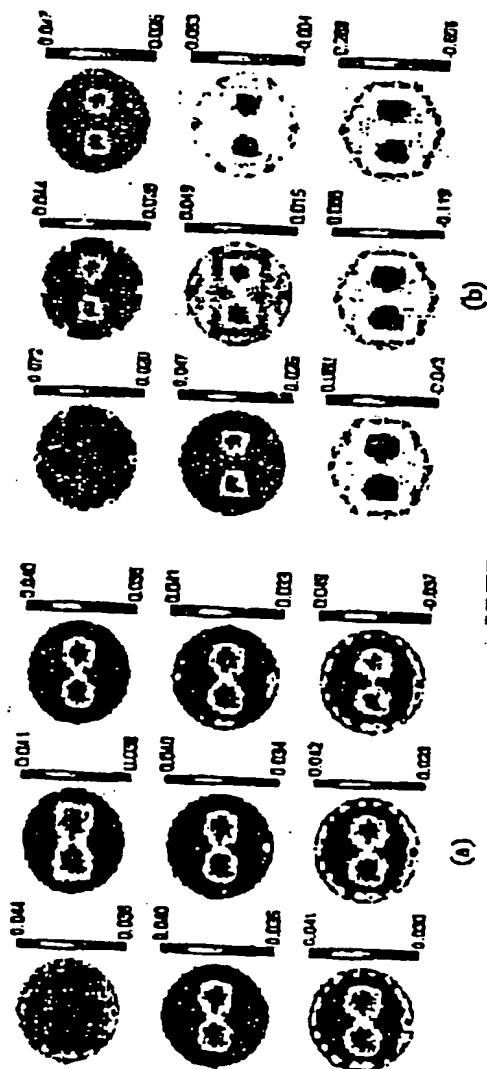


FIG. 9A

FIG. 9B

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Constant Calibration Errors

-50%	-10%	0%
10%	25%	50%
100%	200%	900%

FIG. 10

Ua						D					
Image RSME						Image RSME					
1.2024	1.0805	1.0229	1.0113	1.0048	1.0036	3.4978	1.8461	0.7665	0.6061	0.6689	0.7096
0.6449	0.5520	0.5181	0.5089	0.5023	0.5010	2.5947	1.0714	0.1394	0.3617	0.6149	0.6787
0.2055	0.0881	0.0791	0.0861	0.0910	0.0917	2.3307	0.9784	0.1396	0.3682	0.6188	0.6825
1.4762	1.5126	1.5330	1.5369	1.5385	1.5386	2.1879	0.9450	0.1638	0.3823	0.6260	0.6876
4.0360	4.0585	4.0677	4.0687	4.0690	4.0690	2.0802	0.9036	0.1742	0.3924	0.6289	0.6897
6.5828	6.5959	6.6002	6.6005	6.6005	6.6005	1.9768	0.8595	0.1795	0.3980	0.6305	0.6909
Object Contrast (True Contrast Value = 0.02 cm ⁻¹)						Object Contrast (True Contrast Value = 0.0332 cm ⁻¹)					
0.1418	0.0849	0.0425	0.0284	0.0170	0.0142	0.4091	0.2444	0.1222	0.0819	0.0491	0.0410
0.0899	0.0425	0.0132	0.0066	0.0025	0.0017	0.2466	0.1155	0.0341	0.0165	0.0064	0.0048
0.0639	0.0262	0.0076	0.0035	0.0008	0.0005	0.1723	0.0675	0.0189	0.0096	0.0029	0.0021
0.0315	0.0121	0.0020	0.0007	0.0001	0.0000	0.0779	0.0313	0.0071	0.0036	0.0004	0.0003
0.0141	0.0037	0.0004	0.0001	0.0000	0.0000	0.0431	0.0133	0.0031	0.0006	0.0001	0.0001
0.0063	0.0017	0.0001	0.0000	0.0000	0.0000	0.0219	0.0098	0.0009	0.0002	0.0000	0.0000
Edge Resolution (Actual FWHM = 1 cm)						Edge Resolution (Actual FWHM = 1 cm)					
1.2656	1.2656	1.2656	1.2656	1.2656	1.2656	1.1707	1.1707	1.1707	1.1707	1.1707	1.1707
1.3922	1.5187	1.6137	1.7402	2.0250	2.0566	1.2340	1.2978	1.2973	1.3605	1.6137	1.6453
1.5504	1.6137	1.8035	2.0566	2.1832	1.5187	1.2973	1.2973	1.4238	1.6453	1.3605	1.1074
1.7402	2.0250	2.1832	1.3289	1.1391	1.0441	1.3605	1.6137	1.3605	1.2973	0.9809	0.9492
2.1516	2.0883	1.3289	1.0441	0.6328	0.6645	1.6453	1.3605	1.2023	0.9492	0.6012	0.6645
2.1832	1.3605	1.0441	0.6328	0.6645	0.3480	1.3605	1.2656	0.9492	0.3480	0.6328	0.2215

FIG. 11

Ua

D

Image RSME						Image RSME					
1.1171	1.0615	1.0272	1.0173	1.0100	1.0082	2.9455	1.4274	0.4252	0.3957	0.5926	0.6555
0.5662	0.5251	0.5061	0.5029	0.5020	0.5019	2.6397	1.1522	0.1382	0.3447	0.6095	0.6763
0.1143	0.0560	0.0511	0.0586	0.0598	0.0748	2.4602	1.0394	0.1042	0.3594	0.6135	0.6750
1.4935	1.5003	1.5152	1.5359	1.5373	1.5350	2.2413	0.9426	0.1317	0.3578	6.9283	15.892
4.0029	4.0296	4.0678	4.0614	4.0810	4.6830	2.0733	0.9074	2.9287	23.021	59.515	66.122
6.5353	6.5962	6.5889	6.5719	9.4904	24.8398	1.9857	1.0638	30.856	58.531	73.635	78.807
Object Contrast (True Contrast Value = 0.02 cm ⁻¹)						Object Contrast (True Contrast Value = 0.0332 cm ⁻¹)					
0.0017	0.0010	0.0005	0.0003	0.0002	0.0002	0.3790	0.2274	0.1137	0.0758	0.0455	0.0379
0.0044	0.0053	0.0078	0.0089	0.0105	0.0111	0.2697	0.1377	0.0474	0.0239	0.0088	0.0056
0.0127	0.0157	0.0199	0.0221	0.0153	0.0105	0.2035	0.0938	0.0281	0.0112	0.0057	0.0051
0.0446	0.0531	0.0376	0.0056	0.0004	0.0017	0.1138	0.0419	0.0142	0.0106	0.0141	0.6339
0.1072	0.0724	0.0003	0.0035	0.0001	0.0002	0.0503	0.0277	0.0145	1.9047	6.4243	6.8546
0.1169	0.0080	0.0044	0.0015	0.0050	0.1918	0.0433	0.0289	2.4170	6.2687	7.6970	8.7233
Edge Resolution (Actual FWHM = 1 cm)						Mean FWHM (Actual FWHM = 1 cm)					
3.2590	3.2590	3.2590	3.2590	3.2590	3.2590	0.7594	0.7594	0.7594	0.7594	0.7594	0.7594
0.5062	0.6012	0.6328	0.6961	0.6328	0.6328	0.7594	0.7594	0.7910	0.7594	0.7594	0.4746
0.5379	0.6328	0.6645	0.6328	0.5062	0.4113	0.7910	0.7910	0.8227	0.4746	0.4113	0.3797
0.6961	0.6328	0.4430	0.3797	0.1582	0.2531	0.7594	0.7277	0.4113	0.4113	0.2215	1.8035
0.6012	0.4746	2.8477	0.2531	0.1898	0.1898	0.4746	0.3797	0.1898	0.3480	3.0059	3.0059
0.5062	0.4113	0.2215	0.1898	0.3797	0.0949	0.3797	0.3164	0.3797	3.0059	3.0059	3.4488

FIG. 12

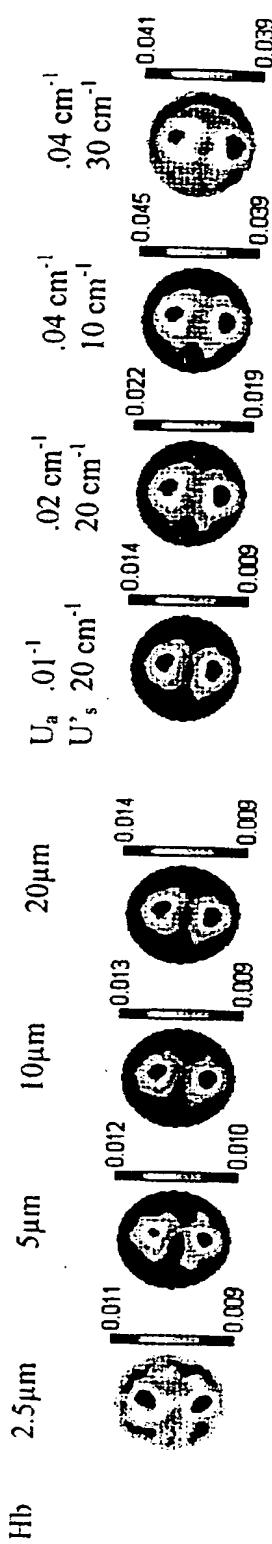


FIG. 13A

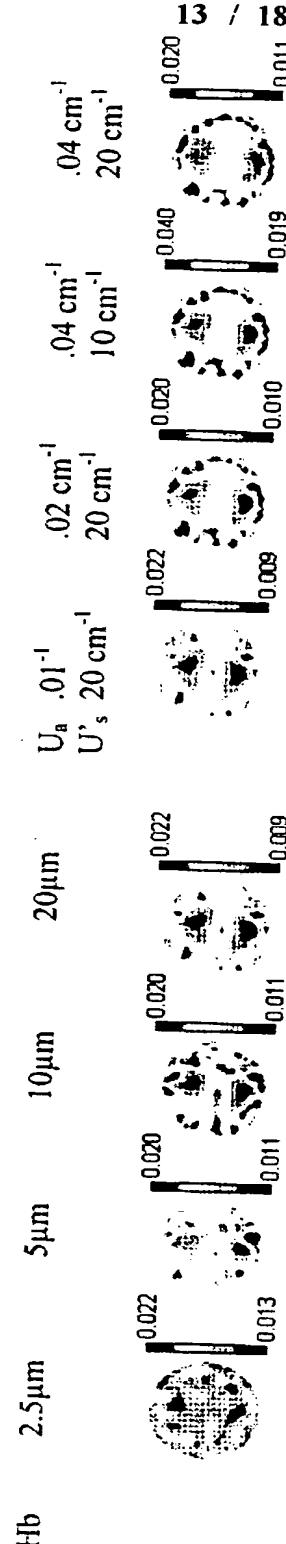


FIG. 13B

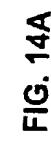


FIG. 14B

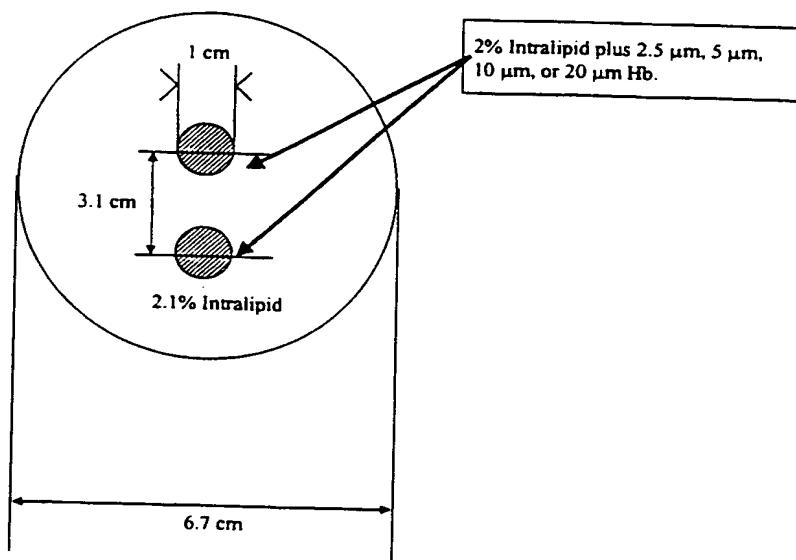


FIG. 15

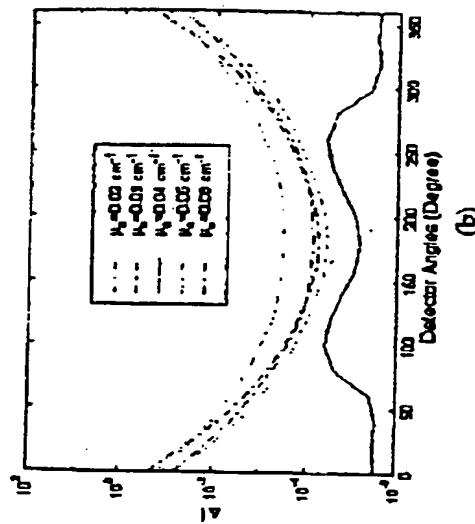


FIG. 16B

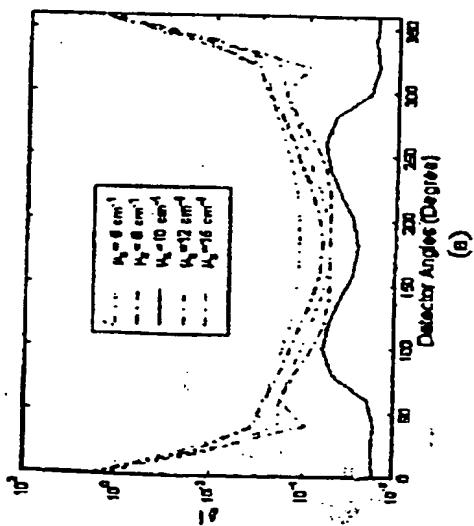


FIG. 16A

FIG. 17B

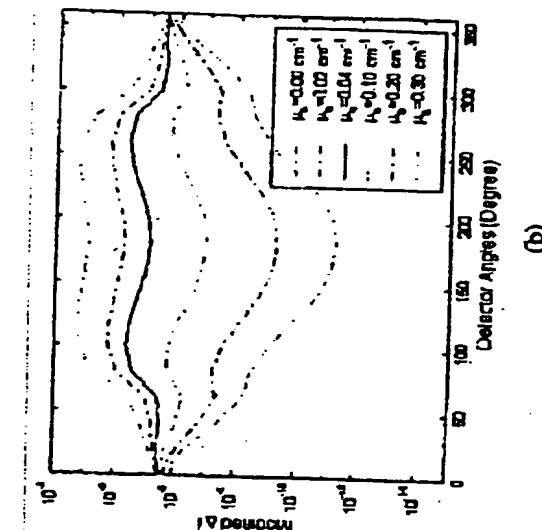
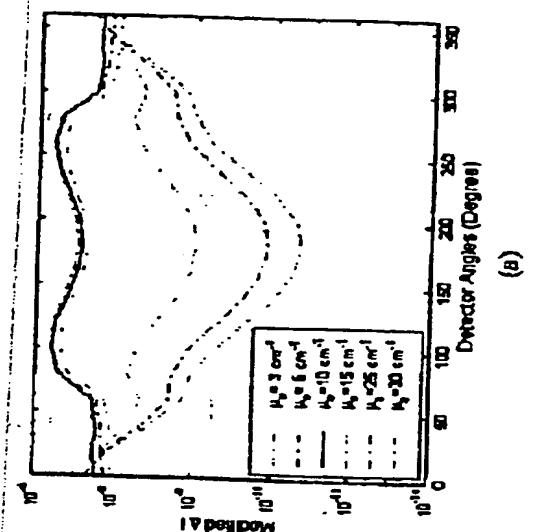


FIG. 17A



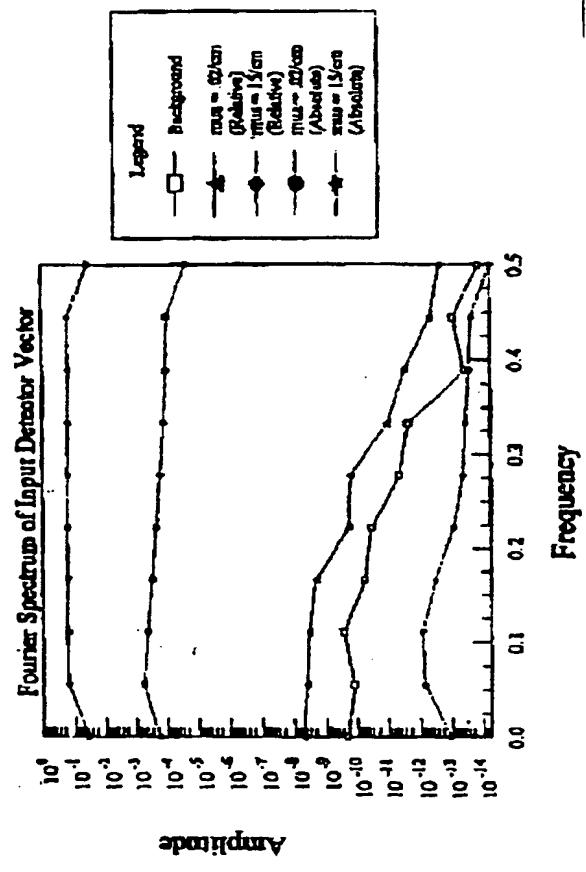


FIG. 18

Original ratio = $\delta\mu/\delta D = 0.02/0.0332 = 0.6024$
 $(\delta\mu/\delta D)^{1/2} = 0.3626$

μ_s (cm ⁻¹)	μ_s' (cm ⁻¹)					
	7	5	10	15	25	30
0.00	0.3427	0.3435	0.3441	0.3429	0.3427	0.3429
0.02	0.3627	0.3682	0.3882	0.4000	0.3846	0.3469
0.04	0.3715	0.3887	0.4042	0.3608	0.2758	0.2380
0.10	0.4048	0.3817	0.2816	0.1891	0.2000	0.0000
0.20	0.3463	0.2761	0.1212	0.1428	0.0000	0.0000
0.30	0.2863	0.1683	0.1000	0.0000	-NAN	-NAN

FIG. 19